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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/511,328

10/15/2004

Jan Thorsoe

2923-663

6686

6449

7590

10/09/2008

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EXAMINER

BOATENG, ALEXIS ASIEDUA

ART UNIT

PAPER NUMBER

2838

NOTIFICATION DATE

DELIVERY MODE

10/09/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/511,328	THORSOE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Alexis Boateng	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,3,9,10 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,9,10,12-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 6 - 9, 10, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeiffer (U.S. 6,051,955) in view of Fiebig (U.S. 5,539,297).

**Regarding claims 16**, Pfeiffer discloses wherein a charge control circuit (figure 5 item 110) for a battery pack comprising:

rechargeable battery elements (figure 5 items 12), which are arranged in respective parallel branches of parallel circuit of battery voltage sources (figure 5 items 17), the charge control circuit comprising state monitoring means for monitoring the battery state of elements (figure 5 item 112; column 9 lines 30 - 35), and the charge control circuit comprising switches (figure 5 items 116), which can be controlled by the state monitoring means for interrupting the current flow or releasing the current flow (column 10 lines 45 - 62), characterized in that each parallel branch (figure item 17) has associated state monitoring means and in that respective switch (figure 5 item 116) is provided in each parallel branch (column 5 lines 45 - 62), it being possible for said respective switch (figure 5 item 116) to be controlled on the basis of the battery state (column 9 lines 41 - 63), which is monitored by the state monitoring means (figure 5 item 112), of the

Art Unit: 2838

relevant parallel branch in order to selectively block or release only this relevant branch for current flow (column 10 line 45 – 62) and wherein the state monitoring means (column 9 lines 40 - column 10 line 13).

Pfeiffer discloses the invention as disclosed above does not disclose the remainder. Fiebig discloses in figure 1 item 2 and in column 3 lines 55 – column 4 lines 15 wherein the temperature is monitored by a temperature sensor within the microcontroller. Fiebig also discloses in column 1 lines 63 - column 2 line 16 wherein the charging is stopped when a certain level of temperature is reached. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Pfeiffer system with the Fiebig system so that the battery's temperature is monitored and protected from overheating.

**Regarding claim 2,** Pfeiffer discloses wherein the state monitoring means of a parallel branch are set to switch the controllable switch to the interrupted state when it detects a battery state “parallel branch fully charged” (column 16 line 64 – column 17 line 22 and claim 27; stop charging the battery when battery is “substantially full”).

**Regarding claim 3,** Pfeiffer discloses wherein the parallel branch are formed from identical groups of series-connected battery elements which are connected in series with respective controlled switch (figure 5 items 110 (parallel branch), item 12, item 116). Pfeiffer discloses the invention as claimed, but does not disclose wherein identical groups of series-connected battery are formed. It would have been obvious to a person of ordinary skill in the art to modify the

Pfeiffer system with a groups of series connected battery so that the system can charge a wide array of batteries. Since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

**Regarding claim 9**, Pfeiffer discloses wherein the charge control circuit characterized in that the state monitoring means comprise measuring devices for detecting the current flowing through the individual parallel branch (figure 5 items 112 and 116; column 11 lines 16 - 24; column 16 lines 28 – 56; column 16 lines 64 column 17 line 22).

**Regarding claim 10**, Pfeiffer discloses wherein the state monitoring means comprise a respective microprocessor per parallel branch for the purpose of controlling the respective switch (abstract, figure 5 item 112).

3. Claims 12 – 15, 17 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeiffer (U.S. 6,051,955) and in view of Kitagawa (U.S. 6,204,633).

**Regarding claims 14, 15, 17 - 25** Pfeifer discloses wherein a charge control circuit (figure 5 item 110) for a battery pack comprising:

Pfeiffer discloses wherein the charge control circuit characterized in that the state monitoring means comprise measuring devices for detecting the current flowing through the individual parallel branch (figure 5 items 112 and 116; column 11 lines 16 - 24; column 16 lines 28 – 56; column 16 lines 64 column 17 line 22).

Pfeiffer also discloses wherein rechargeable battery elements (figure 5 items 12), which are arranged in respective parallel branches of parallel circuit of

Art Unit: 2838

battery voltage sources (figure 5 items 17), the charge control circuit comprising state monitoring means for monitoring the battery state of elements (figure 5 item 112; column 9 lines 30 - 35), and the charge control circuit comprising switches (figure 5 items 116), which can be controlled by the state monitoring means for interrupting the current flow or releasing the current flow (column 10 lines 45 - 62), characterized in that each parallel branch (figure item 17) has associated state monitoring means and in that respective switch (figure 5 item 116) is provided in each parallel branch (column 5 lines 45 - 62), it being possible for said respective switch (figure 5 item 116) to be controlled on the basis of the battery state (column 9 lines 41 - 63), which is monitored by the state monitoring means (figure 5 item 112), of the relevant parallel branch in order to selectively block or release only this relevant branch for current flow (column 10 line 45 - 62). Pfeiffer does not disclose wherein switch switches from a high resistance state to a low resistance state, but does disclose in column 8 lines 60 - 67 wherein switch switches to other different valued resistances, which may or may not be high to low. Pfeiffer does not disclose wherein a discharge control circuit is used in place of the charge control circuit. Kitagawa discloses in figure 3 wherein item 13 is a charge/discharge control circuit to control the discharging function of the batteries. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Pfeiffer system with the Kitagawa system so that the system may be used to drive a load.

***Response to Arguments***

4. Applicant's arguments filed 7/30/08 have been fully considered but they are not persuasive. **Regarding claim 16**, the applicant argues that the Pfeiffer system does not disclose a charge control circuit for a battery pack. The batteries charged in the Pfeiffer system constitutes as a battery pack as it is a group of batteries and they are parallel connected with one another as disclosed in figure 5. The applicant argues that the Kitagawa system does not disclose a controllable switch having an integrated diode. Kitagawa discloses in figure 3 wherein item 21 is an FET, which is a controllable switch, having an integrated diode, item Q1, connected in parallel therewith.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2838

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm I. Ullah can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB

/edward tso/

Primary examiner